

WAFER PROBE STATION HAVING SKIRTING COMPONENT

ABSTRACT

5 A probe station includes a fully guarded chuck
assembly and connector mechanism for increasing sensi-
tivity to low-level currents while reducing settling
times. The chuck assembly includes a wafer-supporting
first chuck element surrounded by a second chuck element
10 having a lower component, skirting component and upper
component each with a surface portion extending opposite
the first element for guarding thereof. The connector
mechanism is so connected to the second chuck element as
to enable, during low-level current measurements, the
15 potential on each component to follow that on the first
chuck element as measured relative to an outer shielding
enclosure surrounding each element. Leakage current from
the first chuck element is thus reduced to virtually
zero, hence enabling increased current sensitivity, and
20 the reduced capacitance thus provided by the second chuck
element decreases charging periods, hence reducing
settling times. With similar operation and effect, where
any signal line element of the connector mechanism is
arranged exterior of its corresponding guard line
25 element, such as adjacent the chuck assembly or on the
probe-holding assembly, a guard enclosure is provided to
surround and fully guard such signal line element in
interposed relationship between that element and the
outer shielding enclosure.